



**BOEING REALTY CORPORATION
FORMER C-6 FACILITY
LOS ANGELES, CALIFORNIA**

CLOSURE REPORT

UNDERGROUND STORAGE TANK 29T

To: Mr. Brian Mossman
Boeing Realty Corporation
3855 Lakewood Blvd.
Building 1A MC D001-0097
Long Beach, CA 90846

From: Haley & Aldrich, Inc.

Date: January 30, 2002

Re: Closure Report, Underground Storage Tank 29T, Boeing Realty Corporation, Former C-6 Facility – Parcel C, Los Angeles, California

Haley & Aldrich, Inc. is herein providing this closure report to summarize the field investigation and laboratory analyses for the former 300 to 550-gallon capacity, diesel, underground storage tank (UST) 29T. Former UST 29T was located near the center of Building 2, on Parcel C of the Boeing Realty Corporation's (BRC's) Former C-6 Facility in Los Angeles, California (subject parcel) as shown on Figures 1 and 2.

INTRODUCTION

Specific information regarding the size and installation and removal dates of former UST 29T could not be located in BRC files. It is thought that UST 29T was removed prior to 2000. According to Mr. Scott Lattimore of BRC, former UST 29T had a volume of approximately 300 to 550 gallons, and was used to store diesel fuel for an electric generator. The location of former UST 29T is shown on a Woodward-Clyde Consultants Plot Plan dated October 21, 1971, which was used to facilitate this investigation. A copy of this map is included in Appendix A. No tank-removal report or post tank-removal investigation information is available.

A review of soil borings installed in the vicinity of former UST 29T was performed to evaluate if petroleum hydrocarbon impacts are present in the soil. Kennedy Jenks Consultants, Inc. (KJC) drilled soil boring C-2-217 in October 2000 during the Phase II Soil Investigation of Parcel C. Boring C-2-217 is approximately ten feet northwest of the reported former UST 29T location as shown on Figure 3. Soil samples were collected at 10, 15 and 20 feet below ground surface (bgs) and analyzed for total petroleum hydrocarbons (TPH) by EPA Method 8015M and volatile organic compounds (VOCs) by EPA Method 8260B. Based on the results of the laboratory analyses, no detectable concentrations of TPH were reported in collected soil samples (Table 1). Acetone was the only VOC detected at concentrations up to 16 micrograms per kilogram ($\mu\text{g}/\text{kg}$) (Table 2).

Because there was no available tank removal report and boring C-2-217 is approximately ten feet from the reported location of former UST 29T, Haley & Aldrich proposed the installation of two soil borings in the vicinity of the former 29T UST to evaluate if UST-related soil impacts exist. Given the small size of the UST, the two borings were proposed to be placed at the approximate ends of the UST (Figure 3). The proposed boring locations were presented to the Regional Water Quality Control Board (RWQCB) on October 25, 1991. Mr. John Geroch of the RWQCB verbally approved the two-boring approach on October 25, 2001.

FIELD ACTIVITIES

The scope of work consisted of locating the reported former UST 29T position using a registered land surveyor, utility clearance, advancement of the soil borings, and laboratory analysis of the soil samples. These tasks are discussed below.

TAIT & Associates, Inc. (Tait), BRC's on-site surveyor, was tasked to locate the former UST 29T position as shown on the Woodward-Clyde Plot Plan using the present site coordinate system and surveyed benchmarks. A registered land surveyor from Tait surveyed the reported location of former UST 29T on November 9, 2001. Based on the Woodward-Clyde Plot Plan, Tait reported that former UST 29T was located at approximately 12257.00 easting and 11912.00 northing and marked the location in the field. Appendix B includes a survey report from Tait regarding the location of former UST 29T. Based on this surveyed location, the two proposed soil borings were located as shown on Figure 3.

On November 8, 2001, Haley & Aldrich notified Underground Service Alert of Southern California (USA) for utility clearance of the two borings. USA issued ticket number 660825 and notified utility companies of the proposed work. Utility companies were given two days to visit the site and mark any buried utility lines in the area. There were no markings in the area of the soil borings. Recent site grading and compaction activities reportedly resulted in the removal of buried utilities in the area of former UST 29T.

Kehoe Testing and Engineering, Inc. (Kehoe) was contracted by Haley & Aldrich to install the soil borings. Two soil borings were completed in the vicinity of former UST 29T on November 13, 2001 as shown on Figure 3. Soil samples were collected at depths of 10, 15, 20, 25 and 30 feet bgs in each boring. The borings were located approximately 4-feet north and 4-feet south of the center of the reported former UST 29T position (Figure 3). Borings were advanced to sampling depths using a truck-mounted Geoprobe 5410 direct-push rig. Samples were collected in 1-inch diameter by 6-inch long brass sleeves. Soils were described and logged by a Haley & Aldrich geologist at the site using the Unified Soil Classification System (USCS). Boring logs are attached in Appendix C.

An ambient temperature headspace analysis (ATHA) was performed at each sampling interval. Approximately 2-ounces of soil sample is placed in a zip-lock baggie and allowed to come to equilibrium with ambient temperature. A photoionization detector (PID) reading is then taken from the baggie headspace to indicate the level of VOCs present. The PID used for this investigation was a RAE Systems MiniRAE Plus (Rental ID – RAE 01) with a 10.6 eV lamp. The unit was calibrated on November 13, 2001 using a 97 parts per million Isobutylene in air mixture. ATHA readings are shown on the boring logs beneath the lithologic descriptions of the samples.

INVESTIGATION RESULTS AND CONCLUSIONS

Results of the former UST 29T investigation suggest that no apparent chemical soil impacts are present as a result of the UST operation. Field screening of all soil samples collected using the ATHA method yielded PID readings of non-detected to 3.6 parts per million (ppm) of total VOCs.

Based on the results of the laboratory analysis of the six soil samples, non-detectable (<10 milligrams per kilogram [mg/kg]) concentrations of TPH were reported. Table 1 summarizes the analytical results for former UST 29T. The laboratory reports are included in Appendix D.

Based upon the investigation performed as described in this letter report and the results of previous soil sampling in the area, no apparent soil impacts associated with former UST 29T were found. Haley & Aldrich proposes submitting UST 29T for closure and no further action with the RWQCB.

Sincerely yours,

HALEY & ALDRICH, INC.

Richard M. Farson, PE
Project Engineer


Scott Zachary
Project Manager

Attachments:

Table 1 – Former UST 29T Soil Analytical Results

Table 2 - Soil Boring C-2-217 – VOC Analytical Results

Figure 1 - Site Location Map

Figure 2 - Tank Location Map

Figure 3 - Boring Locations and Laboratory Analytical Map

Appendix A – Woodward-Clyde Plot Plan

Appendix B - Surveyor Report

Appendix C - Boring Logs

Appendix D - Laboratory Report & Chain of Custody

TABLES

TABLE 1

FORMER C-6 FACILITY, LOS ANGELES, CALIFORNIA

**FORMER UST 29T SOIL ANALYTICAL RESULTS
TOTAL PETROLEUM HYDROCARBONS (TPH) BY EPA METHOD 8015B**

Boring ID	Sample Name	Depth (feet bgs)	Total Carbon Chain Range
C-2-217	C-2-217-10	10	<10
	C-2-217-15	15	<10
	C-2-217-20	20	<10
29_T_1	29_T_1_10	10	<10
	29_T_1_15	15	<10
	29_T_1_20	20	<10
29_T_2	29_T_2_10	10	<10
	29_T_2_15	15	<10
	29_T_2_20	20	<10

NOTES:

Results reported in milligrams per kilogram (mg/kg).

QA/QC: _____

Date: _____

TABLE 2
FORMER C-6 FACILITY, LOS ANGELES, CALIFORNIA
SOIL BORING C-2-217
VOLATILE ORGANIC COMPOUNDS (VOCs) by EPA METHOD 8260B

Analyte	SOIL SAMPLE ID		
	C-2-217-10 ($\mu\text{g/kg}$)	C-2-217-15 ($\mu\text{g/kg}$)	C-2-217-20 ($\mu\text{g/kg}$)
trans-1,3-Dichloropropene	<5	<5	<5
Acetone	16 J	8.3 J	8.7 J
Ethylbenzene	<5	<5	<5
Trichlorofluoromethane	<10	<10	<10
Hexachlorobutadiene	<5	<5	<5
2-Hexanone	<25	<25	<25
Iodomethane	<10	<10	<10
Isopropylbenzene	<5	<5	<5
Isopropyl ether	<10	<10	<10
p-Isopropyltoluene	<5	<5	<5
Methylene chloride	<10	<10	<10
Benzene	<5	<5	<5
n-Propylbenzene	<5	<5	<5
Styrene	<10	<10	<10
1,1,1,2-Tetrachloroethane	<5	<5	<5
1,1,2,2-Tetrachloroethane	<5	<5	<5
Tetrachloroethene	<5	<5	<5
Toluene	<5	<5	<5
1,2,3-Trichlorobenzene	<5	<5	<5
1,2,4-Trichlorobenzene	<5	<5	<5
1,1,1-Trichloroethane	<5	<5	<5
1,1,2-Trichloroethane	<5	<5	<5
Trichloroethene	<5	<5	<5
1,2,3-Trichloropropane	<5	<5	<5
1,2,4-Trimethylbenzene	<5	<5	<5
1,3,5-Trimethylbenzene	<5	<5	<5
Vinyl acetate	<10	<10	<10
Vinyl chloride	<10	<10	<10
Xylenes (total)	<5	<5	<5
t-Butanol	<100	<100	<100
Bromobenzene	<5	<5	<5
Bromoform	<5	<5	<5
Bromochloromethane	<5	<5	<5
Bromodichloromethane	<5	<5	<5
2-Butanone (MEK)	<25	<25	<25
4-Methyl-2-pentanone (MIBK)	<25	<25	<25
Bromoform	<5	<5	<5
Bromomethane	<10	<10	<10
Methyl tert-butyl ether (MTBE)	<5	<5	<5
Acrolein	<100	<100	<100
n-Butylbenzene	<5	<5	<5
sec-Butylbenzene	<5	<5	<5
tert-Butylbenzene	<5	<5	<5

TABLE 2
FORMER C-6 FACILITY, LOS ANGELES, CALIFORNIA
SOIL BORING C-2-217
VOLATILE ORGANIC COMPOUNDS (VOCs) by EPA METHOD 8260B

Analyte	SOIL SAMPLE ID		
	C-2-217-10 ($\mu\text{g/kg}$)	C-2-217-15 ($\mu\text{g/kg}$)	C-2-217-20 ($\mu\text{g/kg}$)
Tert-amyl methyl ether	<10	<10	<10
Tert-butyl ethyl ether	<10	<10	<10
Carbon disulfide	<5	<5	<5
Acrylonitrile	<100	<100	<100
Carbon tetrachloride	<5	<5	<5
Chlorobenzene	<5	<5	<5
Dibromochloromethane	<5	<5	<5
1,2-Dibromo-3-chloropropane	<10	<10	<10
Chloroethane	<10	<10	<10
2-Chloroethyl vinyl ether	<10	<10	<10
Chloroform	<5	<5	<5
Chloromethane	<5	<5	<5
2-Chlorotoluene	<5	<5	<5
4-Chlorotoluene	<5	<5	<5
1,2-Dibromoethane	<5	<5	<5
1,2-Dichlorobenzene	<5	<5	<5
1,3-Dichlorobenzene	<5	<5	<5
1,4-Dichlorobenzene	<5	<5	<5
Dichlorodifluoromethane	<5	<5	<5
1,1-Dichloroethane	<5	<5	<5
1,2-Dichloroethane	<5	<5	<5
1,1-Dichloroethene	<5	<5	<5
cis-1,2-Dichloroethene	<5	<5	<5
trans-1,2-Dichloroethene	<5	<5	<5
1,2-Dichloropropane	<5	<5	<5
2,2-Dichloropropane	<5	<5	<5
1,1-Dichloropropene	<5	<5	<5
cis-1,3-Dichloropropene	<5	<5	<5

NOTE:

$\mu\text{g/kg}$ = micrograms per kilogram

QA/QC: _____

Date: _____

FIGURES

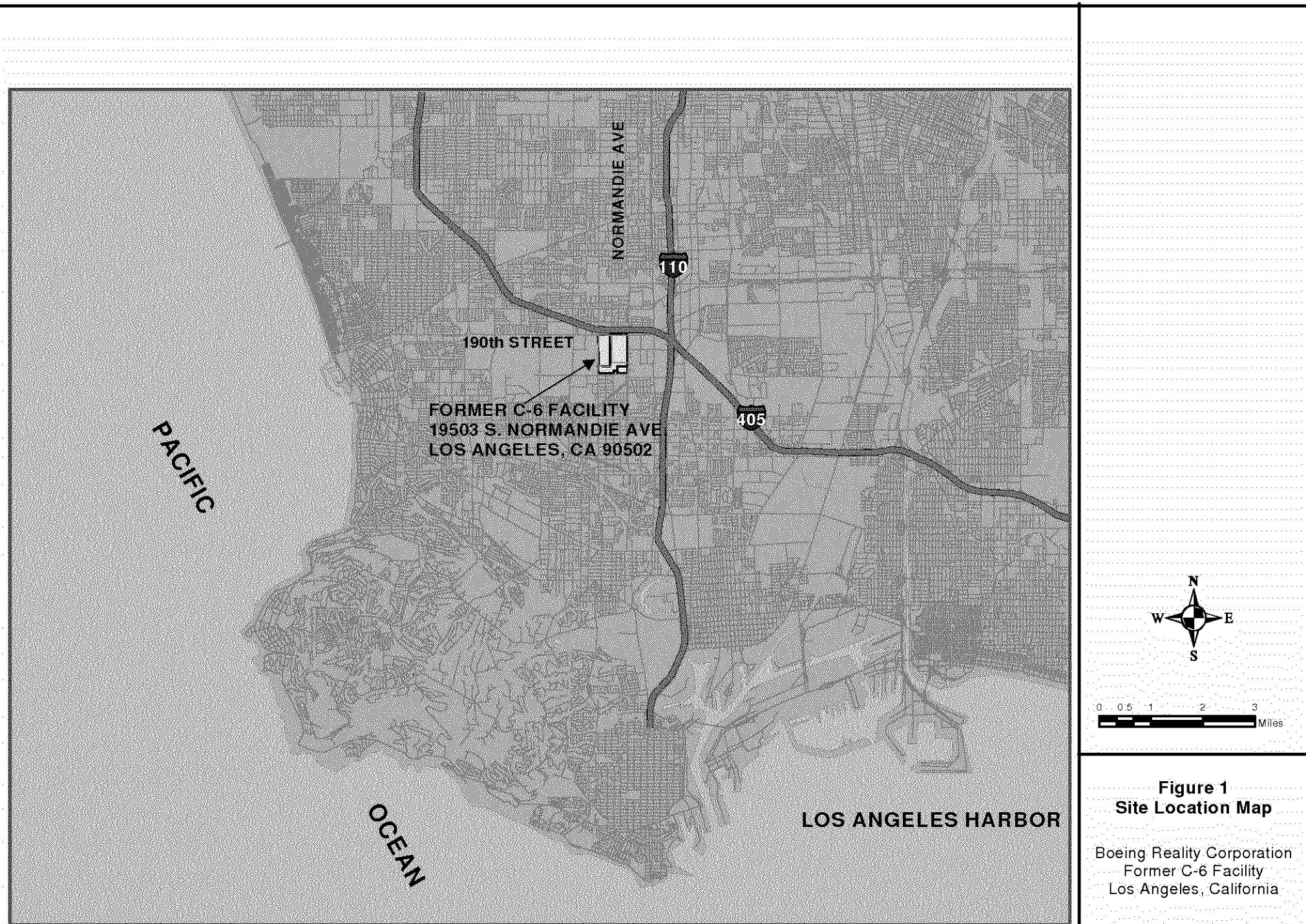


Figure 1
Site Location Map

Boeing Reality Corporation
Former C-6 Facility
Los Angeles, California

HAILEY & ALDRICH UNDERGROUND ENGINEERING &
ENVIRONMENTAL SOLUTIONS

Scale : As Shown QA/QC : Project : 27285
Drawn : DFM Reviewed : SPZ Date : 20 December 2001

BOE-C6-0000364

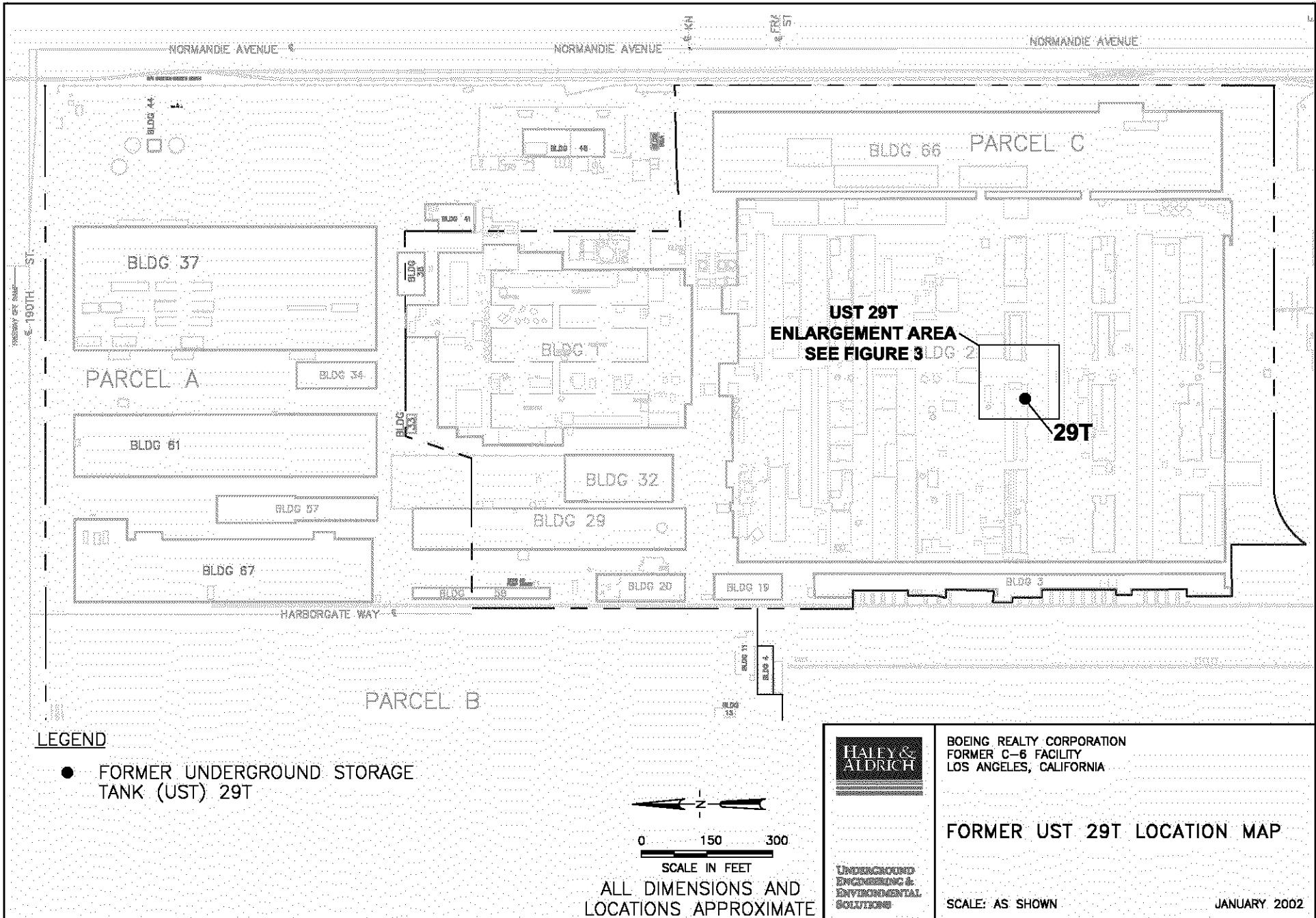


FIGURE 2

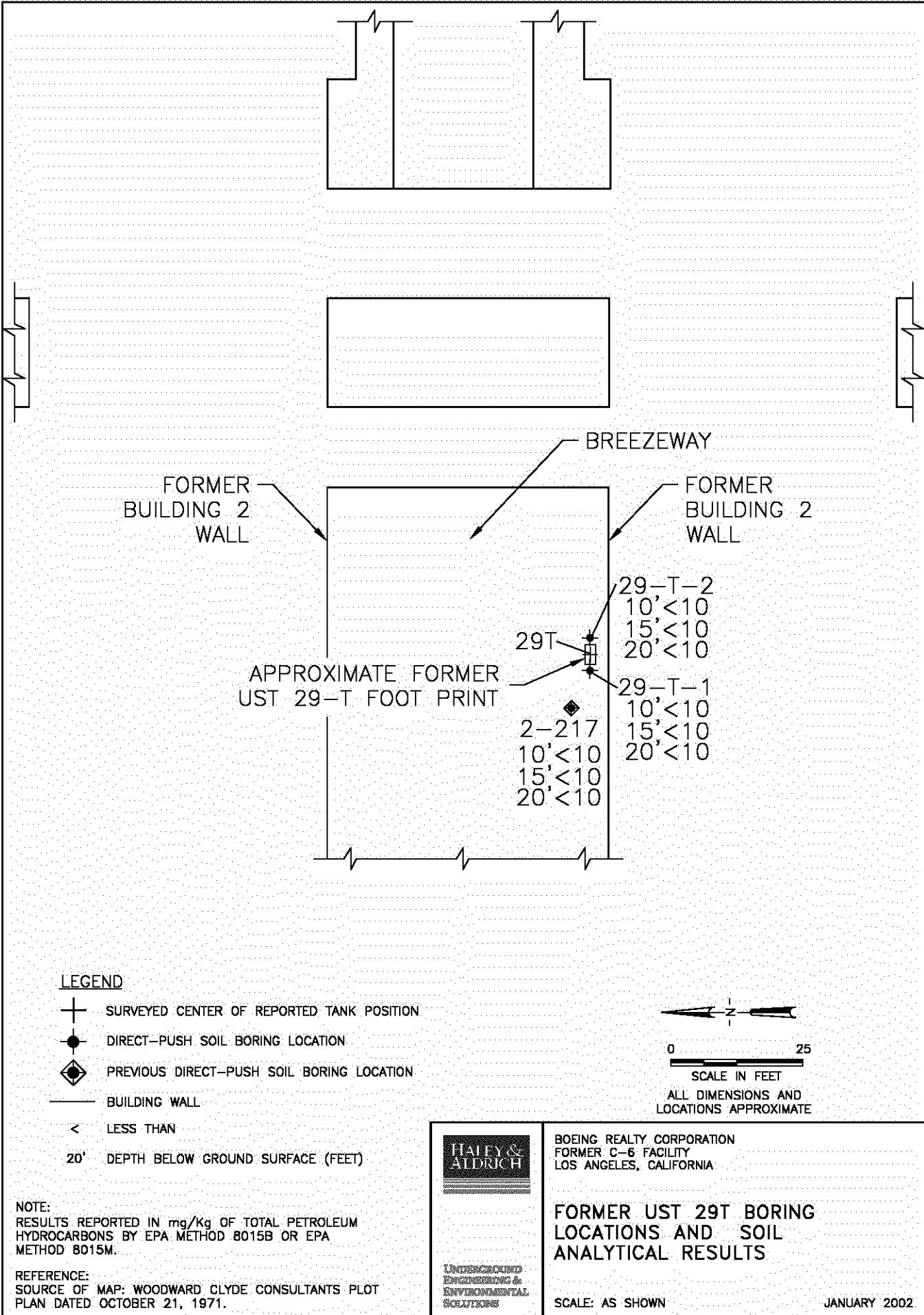


FIGURE 3

APPENDIX A
WOODWARD-CLYDE PLOT PLAN, 1971

APPENDIX B
SURVEYOR REPORT



TAIT & Associates, Inc.
Engineering • Planning • Surveying

January 27, 2002

Haley & Aldrich, Inc.
9040 Friars Road, suite 220
San Diego, CA 92108
ATTN: Beth Breitenbach

RE: UST "29T" & "9T" at Boeing Realty Corp. C-6 Facility

Dear Ms. Breitenbach:

On November 7, 2001 we received a blue-line map prepared by Woodward-Clyde in 1971. This map graphically showed the location of the UST's referenced above.

Per the request of Mr. Travis Hammond, of your office, we determined the coordinates of these items by scaling from multiple building corners that were common to the TAIT digital files and the Woodward-Clyde drawing. Mr. Hammond was informed that due to the errors inherent to working with blue-lines and scales that the coordinates we probably plus or minus 10'.

On November 8, 2001 our field crew set stakes on-site at these locations. This was done to enable Haley & Aldrich to perform a search for the above referenced tanks.

The local site coordinates used by the TAIT field crew for this staking are as follows:

ITEM #	NORTHING	EASTING
9T	12848	12760
29T	11912	12257

If we can be of further service please do not hesitate to contact us.

Sincerely,

TAIT & ASSOCIATES, INC.

Michael Simon, P.L.S.
Survey Manager



APPENDIX C
BORING LOGS



TEST BORING REPORT

BORING NO.

29T-1

Page _____ of _____

PROJECT	Former C-6 Facility	H&FILE NO.	27285-001
LOCATION	.19503 South Normandie Avenue, Torrance, CA, 90505	PROJECT MGR.	S. Zachary
CLIENT	Boring Reality Corporation	FIELD REP.	T. Hammond
CONTRACTOR	Kehoe Testing & Engineering, Inc.	DATE STARTED	To 11/13/2001
DRILLER	Dee Johnson	DATE FINISHED	To 11/13/2001

Elevation	ft	Datum	Boring Location	4-feet south of center of 29T UST				
Item	Casing	Sampler	Core Barrel	Ring Make & Model	Geoprobe 5410	Hammer Type	Drilling Mud	Casing Advance
Type				Truck	Tripod	Cat-Head		
Inside Diameter (in.)				ATV	Geoprobe	Winch		
Hammer Weight (lb.)				Track	Air Track			
Hammer Fall (in.)				Skid		Roller Bit		
						Cutting Head		

Drilling Notes:

Depth (ft)	Sampler Blows per 6 in	Sample No. & Recovery (in.)	Sample Depth (ft.)	Well Diagram	Strata Charge (ft.)	USCS Symbol	Visual-Manual Identification & Description				Gavel % Cores	Sand % Cores	Field Test
							% Gavel	% Sand	% Redam	% Wet.			
- 0													
- 3													
- 10		X	10'			CB	Very stiff, Dark Brown, silty sandy CLAY. No odor, Moist Brick pieces, -Rust ATHA - 0.0 ppm	2	3	3	N H H V		
			12"										
- 15		X	15'			CL	Soft, Dark Brown silty CLAY with fine sand. No odor, Moist ATHA - 0.1 ppm	3	3	N D M M			
			12"										
- 20		X	20'			CH	Medium stiff, Light Brown, silty CLAY. No odor, Moist Homogenous, Blocky ATHA - 0.3 to 0.6 ppm	3	3	N M H H			
			16"										
- 25		X	25'			CH	Soft, Light Brown CLAY with silt. No odor, Moist Homogeneous, Blocky ATHA - 0.8 to 2.5 ppm	3	3	N H H V			
			16"										
- 30		X	30'			ML	Soft, Olive-brown to Brown, SILT with clay and very fine sand No odor, Moist, Bloody, Rotten smelling, ATHA - 2.0 to 3.6 ppm	15	3	N L M L			
			18"										

Water Level Data

SampleID	Well Diagram	Summary
O : Open End Rod . . .	Riser Pipe	Overburden (Linear ft.) :
T : Thin Wall Tube . . .	Screen . . .	RockCored (Linear ft.) :
U : Undisturbed Sampler . . .	Filter Sand . . .	Number of Samples :
S : Split Spoon Sample . . .	Cuttings . . .	5
G : Geoprobe . . .	Grout . . .	
	Concrete . . .	
	Bitumen Seal . . .	

BORING NO. 29T-1

Field Tests	Dilatancy:	R - Rapid S - Slow N - None	Plasticity:	N - Non-plastic L - Low M - Medium H - High
	Toughness:	L - Low M - Medium H - High	Dry Strength:	N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.



TEST BORING REPORT

BORING NO.

29T-2

Page _____ of _____

PROJECT	Former C-6 Facility	H&FILE NO.	27285-001
LOCATION	.19503 South Normandie Avenue, Torrance, CA, 90505	PROJECT MGR.	S. Zachary
CLIENT	Boring Reality Corporation	FIELD REP.	T. Hammond
CONTRACTOR	Kehoe Testing & Engineering, Inc.	DATE STARTED	To 11/13/2001
DRILLER	Dee Johnson	DATE FINISHED	To 11/13/2001

Elevation	ft	Datum	Boring Location	4-feet south of center of 29T UST
Item	Casing	Sampler	Core Barrel	Ring Make & Model
Type			Truck	Geoprobe 5410
Inside Diameter (in.)			ATV	Tripod
Hammer Weight (lb.)			Geoprobe	Cat-Head
Hammer Fall (in.)			Track	Winch
			Air Track	
				Safety
				Doughnut
				Polymer
				Automatic
				Cutting Head

Drilling Notes:

Depth (ft)	Sampler Blows per 6 in	Sample No. & Recovery (in.)	Sample Depth (ft)	Wall Diagram	Strata Charge (ft)	USCS Symbol	Visual-Manual Identification & Description (density/consistency, color, GROUP NAME & SYMBOL, maximum particle size, structure, odor, moisture, optional description, geologic interpretation)	Gavel	Sand	Field Test						
								% Gavel	% fine	% Coarse	% silt	% sand	% clay	Test Type	Rock Type	Plasticity Index
- 0																
- 3																
- 10						CB	Hard, Dark Brown, silty CLAY with sand, No odor, Moist, FILL ATHA - 0.0 ppm	5	3	3	0	N	H	H	V	
- 12'-13'																
- 15'						CL	Medium stiff, Dark Brown, silty CLAY with fine sand, No odor Moist, Sticky ATHA - 0.3 to 1.1 ppm	10	#	#	N	D	M	M		
- 20						CH	Medium stiff, Light Brown CLAY without No odor, Moist Sticky, Waxy ATHA - 2.6 ppm	5	3	3	0	N	M	H	H	
- 25						CH	Very stiff, Olive-brown, CLAY with trace silt, No odor Moist, Sticky, Waxy ATHA - 1.6 to 2.1 ppm	#	#	N	H	H	V			
- 25'-27'																
- 30						ML	Soft, Olive-brown, SILT with clay and very fine sand, No odor Moist, Layering apparent, ATHA - 0.0 to 0.4 ppm	20	20	3	N	M	L	L		

Water Level Data						Sample ID	Well Diagram	Summary
Date	Time	Elapsed Time (hr)	Bottom of Casing	Bottom of Hole	Water	O Open End Rod ..	Riser Pipe ..	Overburden (Linear ft.) ..
None						T Thin Wall Tube ..	Screen ..	RockCored (Linear ft.) ..

Field Tests	Dilatancy:	R - Rapid S - Slow N - None	Plasticity:	N - Non-plastic L - Low M - Medium H - High
	Toughness:	L - Low M - Medium H - High	Dry Strength:	N - None L - Low M - Medium H - High V - Very High

*NOTE: Maximum Particle Size is determined by direct observation within the limitations of sampler size.

NOTE: Soil identifications based on visual-manual methods of the USCS system as practiced by Haley & Aldrich, Inc.

G Filter Sand ..

U Undisturbed Sampler ..

S Split Spoon Sample ..

G Geoprobe ..

I Open End Rod ..

T Thin Wall Tube ..

C Cuttings ..

G Grout ..

C Concrete ..

B Bentonite Seal ..

Boring No. 29T-2

APPENDIX D
LABORATORY REPORT

SEVERN
TRENT
SERVICES

STL Los Angeles
1721 South Grand Avenue
Santa Ana, CA 92705-4808

November 19, 2001

STL LOT NUMBER: E1K130284
NELAP Certification Number: 01118CA
PO/CONTRACT: 05160-SEV002-S56

Tel: 714 258 8610
Fax: 714 258 0921
www.stl-inc.com

Scott Zachary
Haley & Aldrich Inc
9040 Friars Road
Suite 220
San Diego, CA 92108

Dear Mr. Zachary,

This report contains the analytical results for the 10 samples received under chain of custody by STL Los Angeles on November 13, 2001. These samples are associated with your BRC former C-6 Torrance Harbor Gateway project.

All applicable quality control procedures met method-specified acceptance criteria. See Project Receipt Checklist for container temperature and conditions. Temperature reading between 2 to 6 degrees Celsius is considered within acceptable criteria. Any matrix related anomaly is footnoted within the report.

STL Los Angeles certifies that the tests performed at our facility meet all NELAP requirements for parameters for which accreditation is required or available. The case narrative is an integral part of the report. This report shall not be reproduced except in full, without the written approval of the laboratory.

If you have any questions, please feel free to call me at (714) 258-8610 extension 309.

Sincerely,



Diane Suzuki
Project Manager

CC: Project File

Page 1 of 000031 total pages in this report.

000001

STL Los Angeles is a part of Severn Trent Laboratories, Inc.



Chain of Custody Record

SEVERN
TRENT
SERVICES

Severn Trent Laboratories, Inc.

STL-4124 (0700)

Client **Haley & Aldrich**

Address **9040 Friars Rd, Suite 220**

Project Manager **S. Zachary**

Telephone Number (Area Code)/Fax Number **619 - 280 - 9210**

Date **11/13/01**

Chain of Custody Number **054107**

City San Diego	State CA	Zip Code 92108	Site Contact Carrier/Waybill Number	Lab Contact	Analysis (Attach list if more space is needed)	Special Instructions/ Conditions of Receipt
-----------------------	-----------------	-----------------------	--	-------------	--	--

Contract/Purchase Order/Quote No.

27285-001

Sample I.D. No. and Description
(Containers for each sample may be combined on one line)

		Date	Time	Matrix	Containers & Preservatives
29-T-1-10'		11/13/01	10:00	X	/
29-T-1-15'					/
29-T-1-20'					/
29-T-1-25'					HOLD
29-T-1-30'					HOLD
29-T-1-L-10'			11:00		HOLD
29-T-2-L-15'					HOLD
29-T-2-20'					HOLD
29-T-2-25'					HOLD
29-T-2-30'					HOLD

Sample Disposal

<input type="checkbox"/> Non Hazard	<input type="checkbox"/> Flammable	<input type="checkbox"/> Skin Irritant	<input type="checkbox"/> Poison A	<input checked="" type="checkbox"/> Unknown	<input type="checkbox"/> Return To Client	<input type="checkbox"/> Disposal By Lab	<input type="checkbox"/> Archive For _____ Months
-------------------------------------	------------------------------------	--	-----------------------------------	---	---	--	---

(A fee may be assessed if samples are retained longer than 3 months)

QC Requirements (Specify)

1. Relinquished By Zach	Date 11/13/01	Time 15:30	1. Received By Bob C. J.	Date 11/13/01	Time 15:30
2. Relinquished By	Date	Time	2. Received By	Date	Time
3. Relinquished By	Date	Time	3. Received By	Date	Time

Comments

HOLD ALL SAMPLES PENDING TPH ANALYSES, HOLD 25' & 30' SAMPLES PENDING SHALLOW RESULTS

DISTRIBUTION: WHITE - Stays with the Sample; CANARY - Returned to Client with Report; PINK - Field Copy

STL LOS ANGELES
PROJECT RECEIPT CHECKLIST

Date: 11/13/01

Quantms Lot #: EIK130284
Client Name: HAFLEY ALDRICH
Received by: MCT
Delivered by: Client Airborne Fed Ex
 UPS DES Other

Quote #: 42295
Project: C6 - TORRANCE - CA
Date/Time Received: 11/13/01 15:08
 DHL Ultra-Ex Rey B.

Initial / Date

Custody Seal Status: Intact Broken None MCT 11/13/01
Custody Seal #(s): No Seal #
Sample Container(s): STL-LA Client N/A
Temperature(s) (COOLER/BLANK) in °C: 28°C (CORRECTED TEMP) 25°C
Thermometer Used: IR (Infra-red) A Digital (Probe)
 $(LCF = -3^{\circ}C)$
Samples: Intact Broken Other
Anomalies: No Yes (See Clouseau)
Labeled by
Labeling checked by
Turn Around Time: RUSH-24HR RUSH-48HR RUSH-72HR NORMAL HOLD ✓
Short-Hold Notification: Ph Wet Chem Metals (Filter/Pres) Encore N/A ...
Outside Analysis(es) (Test/Lab/Date Sent Out):
.....
.....
.....
.....
.....

***** LEAVE NO BLANK SPACES ; USE N/A *****

Fraction	1-10										PH
VOA# 1	—										N/A
SLEEVE	2										—

XHCl H2OAc Acetone Acetone/Solvent Styrene H2SO4 HNO3 HBr/HNO3-Field Shredded HBr/HNO3-Lab Shredded
CG-Clear Glass Jar CG-Clear Glass Bottle AGE-Amber Glass Jar AGB-Amber Glass Bottle PB-Poly Bottle E-Screw Sampler V-YOA

* Number of VOA's w/ Headspace present

LOGGED BY/DATE: MCT 11-13-01 REVIEWED BY/DATE: J. Sauer

AMCO 2000 LOGO

000003

SEVERN
TRENT
SERVICES

Analytical Report

000004

EXECUTIVE SUMMARY - Detection Highlights

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>ANALYTICAL METHOD</u>
NO DETECTABLE PARAMETERS				

000005

METHODS SUMMARY

E1K130284

<u>PARAMETER</u>	<u>ANALYTICAL METHOD</u>	<u>PREPARATION METHOD</u>
Extractable Petroleum Hydrocarbons	SW846 8015B	SANA AUTO-SHAKE
Volatile Petroleum Hydrocarbons	SW846 8015B	SW846 5030

References:

SW846 "Test Methods for Evaluating Solid Waste, Physical/Chemical Methods", Third Edition, November 1986 and its updates.

000006

SAMPLE SUMMARY

E1K130284

WO #	SAMPLE#	CLIENT SAMPLE ID	SAMPLED DATE	SAMP TIME
ENV81	001	29_T_1_10	11/13/01	10:00
ENV86	002	29_T_1_15	11/13/01	10:00
ENV87	003	29_T_1_20	11/13/01	10:00
ENV9A	006	29_T_2_10	11/13/01	11:00
ENV9D	007	29_T_2_15	11/13/01	11:00
ENV9E	008	29_T_2_20	11/13/01	11:00

NOTE(S) :

- The analytical results of the samples listed above are presented on the following pages.
- All calculations are performed before rounding to avoid round-off errors in calculated results.
- Results noted as "ND" were not detected at or above the stated limit.
- This report must not be reproduced, except in full, without the written approval of the laboratory.
- Results for the following parameters are never reported on a dry weight basis: color, corrosivity, density, flashpoint, ignitability, layers, odor, paint filter test, pH, porosity pressure, reactivity, redox potential, specific gravity, spot tests, solids, solubility, temperature, viscosity, and weight.

000007

HALEY & ALDRICH INC

Client Sample ID: 29_T_1_10

GC Semivolatiles

Lot-Sample #....: E1K130284-001 Work Order #....: ENV811AA Matrix.....: SOLID
 Date Sampled....: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 11:59
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
		(60 - 130)		
Benzo(a)pyrene	83			

000008

HALEY & ALDRICH INC

Client Sample ID: 29_T_1_10

GC Volatiles

Lot-Sample #....: E1K130284-001 Work Order #....: ENV811AC Matrix.....: SOLID
Date Sampled....: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
Prep Batch #....: 1319487 Analysis Time...: 03:33
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY		LIMITS
	RECOVERY	(60 - 130)		
a,a,a-Trifluorotoluene (TFT)	68			

000009

HALEY & ALDRICH INC

Client Sample ID: 29_T_1_15

GC Semivolatiles

Lot-Sample #....: E1K130284-002 Work Order #....: ENV861AA Matrix.....: SOLID
 Date Sampled....: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 12:38
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS		
		(60 - 130)		
Benzo(a)pyrene	80			

000010

HALEY & ALDRICH INC

Client Sample ID: 29_T_1_15

GC Volatiles

Lot-Sample #....: E1K130284-002 Work Order #....: ENV861AC Matrix.....: SOLID
Date Sampled....: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
Prep Batch #....: 1319487 Analysis Time...: 04:02
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY	LIMITS	
a,a,a-Trifluorotoluene (TFT)	RECOVERY	(60 - 130)		
	72			

000011

HALEY & ALDRICH INC

Client Sample ID: 29_T_1_20

GC Semivolatiles

Lot-Sample #....: E1K130284-003 Work Order #....: ENV871AA Matrix.....: SOLID
 Date Sampled....: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 14:35
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
SURROGATE	PERCENT RECOVERY	RECOVERY		
		LIMITS	(60 - 130)	
Benzo (a) pyrene	79			

000012

HALEY & ALDRICH INC

Client Sample ID: 29_T_1_20

GC Volatiles

Lot-Sample #....: E1K130284-003 Work Order #....: ENV871AC Matrix.....: SOLID
 Date Sampled....: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
 Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1319487 Analysis Time...: 04:31
 Dilution Factor: 1
 Analyst ID.....: 001464 Instrument ID...: G16
 Method.....: SW846 8015B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
<hr/>				
SURROGATE	PERCENT	RECOVERY		
a,a,a-Trifluorotoluene (TFT)	RECOVERY	LIMITS		
	64	(60 - 130)		

000013

HALEY & ALDRICH INC

Client Sample ID: 29_T_2_10

GC Semivolatiles

Lot-Sample #....: E1K130284-006 Work Order #....: ENV9A1AA Matrix.....: SOLID
 Date Sampled....: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 15:14
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
SURROGATE	PERCENT RECOVERY	RECOVERY		
		LIMITS	(60 - 130)	
Benzo(a)pyrène	80			

000014

HALEY & ALDRICH INC

Client Sample ID: 29_T_2_10

GC Volatiles

Lot-Sample #....: E1K130284-006 Work Order #....: ENV9A1AC Matrix.....: SOLID
Date Sampled....: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
Prep Batch #....: 1319487 Analysis Time...: 05:00
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
a,a,a-Trifluorotoluene (TFT)	67	(60 - 130)		

000015

HALEY & ALDRICH INC

Client Sample ID: 29_T_2_15

GC Semivolatiles

Lot-Sample #....: E1K130284-007 Work Order #....: ENV9D1AA Matrix.....: SOLID
 Date Sampled....: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 15:53
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
<u>SURROGATE</u>	<u>PERCENT</u>	RECOVERY		
		<u>RECOVERY</u>	<u>LIMITS</u>	
Benzo(a)pyrene	83	(60 - 130)		

000016

HALEY & ALDRICH INC

Client Sample ID: 29_T_2_15

GC Volatiles

Lot-Sample #....: E1K130284-007 Work Order #....: ENV9D1AC Matrix.....: SOLID
Date Sampled...: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
Prep Batch #....: 1319487 Analysis Time...: 05:29
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

PARAMETER	RESULT	REPORTING		
		LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
SURROGATE	PERCENT	RECOVERY		
	RECOVERY	LIMITS		
a,a,a-Trifluorotoluene (TFT)	67	(60 - 130)		

000017

HALEY & ALDRICH INC

Client Sample ID: 29_T_2_20

GC Semivolatiles

Lot-Sample #....: E1K130284-008 Work Order #....: ENV9E1AA Matrix.....: SOLID
 Date Sampled....: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 16:32
 Dilution Factor: 1
 Analyst ID.....: 356074 Instrument ID...: G02
 Method.....: SW846 8015B

<u>PARAMETER</u>	<u>RESULT</u>	REPORTING		
		<u>LIMIT</u>	<u>UNITS</u>	<u>MDL</u>
C8-C9	ND	10	mg/kg	5.0
C10-C11	ND	10	mg/kg	5.0
C12-C13	ND	10	mg/kg	5.0
C14-C15	ND	10	mg/kg	5.0
C16-C17	ND	10	mg/kg	5.0
C18-C19	ND	10	mg/kg	5.0
C20-C23	ND	10	mg/kg	5.0
C24-C27	ND	10	mg/kg	5.0
C28-C31	ND	10	mg/kg	5.0
C32-C35	ND	10	mg/kg	5.0
C36-C39	ND	10	mg/kg	5.0
C40+	ND	10	mg/kg	5.0
Total Carbon Chain Range	ND	10	mg/kg	5.0
<u>SURROGATE</u>	<u>PERCENT</u>	RECOVERY		
		<u>RECOVERY</u>	<u>LIMITS</u>	
Benzo (a) pyrene	86	(60 - 130)		

000018

HALEY & ALDRICH INC

Client Sample ID: 29_T_2_20

GC Volatiles

Lot-Sample #....: E1K130284-008 Work Order #....: ENV9E1AC Matrix.....: SOLID
Date Sampled....: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
Prep Batch #....: 1319487 Analysis Time...: 05:57
Dilution Factor: 1
Analyst ID.....: 001464 Instrument ID...: G16
Method.....: SW846 8015B

PARAMETER	REPORTING			
	RESULT	LIMIT	UNITS	MDL
C6-C8	ND	1.0	mg/kg	0.10
PERCENT				RECOVERY
RECOVERY				LIMITS
SURROGATE a,a,a-Trifluorotoluene (TFT)	63	(60 - 130)		

000019

SEVERN
TRENT
SERVICES

QA/QC

000020

QC DATA ASSOCIATION SUMMARY

E1K130284

Sample Preparation and Analysis Control Numbers

<u>SAMPLE#</u>	<u>MATRIX</u>	<u>ANALYTICAL METHOD</u>	<u>LEACH BATCH #</u>	<u>PREP BATCH #</u>	<u>MS RUN#</u>
001	SOLID	SW846 8015B		1318441	1318197
	SOLID	SW846 8015B		1319487	1319248
002	SOLID	SW846 8015B		1318441	1318197
	SOLID	SW846 8015B		1319487	1319248
003	SOLID	SW846 8015B		1318441	1318197
	SOLID	SW846 8015B		1319487	1319248
006	SOLID	SW846 8015B		1318441	1318197
	SOLID	SW846 8015B		1319487	1319248
007	SOLID	SW846 8015B		1318441	1318197
	SOLID	SW846 8015B		1319487	1319248
008	SOLID	SW846 8015B		1318441	1318197
	SOLID	SW846 8015B		1319487	1319248

000021

METHOD BLANK REPORT

GC Semivolatiles

Client Lot #...: E1K130284
 MB Lot-Sample #: E1K140000-441
 Analysis Date...: 11/15/01
 Dilution Factor: 1

Work Order #...: ENX5R1AA
 Prep Date.....: 11/14/01
 Prep Batch #...: 1318441
 Analyst ID.....: 356074

Matrix.....: SOLID
 Analysis Time.: 10:41
 Instrument ID.: G02

<u>PARAMETER</u>	<u>RESULT</u>	<u>REPORTING LIMIT</u>	<u>UNITS</u>	<u>METHOD</u>
C8-C9	ND	10	mg/kg	SW846 8015B
C10-C11	ND	10	mg/kg	SW846 8015B
C12-C13	ND	10	mg/kg	SW846 8015B
C14-C15	ND	10	mg/kg	SW846 8015B
C16-C17	ND	10	mg/kg	SW846 8015B
C18-C19	ND	10	mg/kg	SW846 8015B
C20-C23	ND	10	mg/kg	SW846 8015B
C24-C27	ND	10	mg/kg	SW846 8015B
C28-C31	ND	10	mg/kg	SW846 8015B
C32-C35	ND	10	mg/kg	SW846 8015B
C36-C39	ND	10	mg/kg	SW846 8015B
C40+	ND	10	mg/kg	SW846 8015B
Total Carbon Chain Range	ND	10	mg/kg	SW846 8015B
<hr/>				
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		
Benzo(a)pyrene	75	<u>LIMITS</u> (60 - 130)		

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000022

METHOD BLANK REPORT

GC Volatiles

Client Lot #....: E1K130284
MB Lot-Sample #: E1K150000-487
Analysis Date...: 11/15/01
Dilution Factor: 1

Work Order #....: EN2981AA
Prep Date.....: 11/15/01
Prep Batch #:....: 1319487
Analyst ID.....: 001464

Matrix.....: SOLID
Analysis Time..: 02:35
Instrument ID..: G16

PARAMETER	REPORTING			METHOD
	RESULT	LIMIT	UNITS	
C6-C8	ND	1.0	mg/kg	SW846 8015B
SURROGATE	PERCENT	RECOVERY		
a,a,a-Trifluorotoluene (TFT)	RECOVERY	LIMITS		
	60	(60 - 130)		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

000023

LABORATORY CONTROL SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #....: E1K130284 Work Order #....: ENX5R1AC Matrix.....: SOLID
 LCS Lot-Sample#: E1K140000-441
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 11:20
 Dilution Factor: 1 Instrument ID..: G02
 Analyst ID.....: 356074

<u>PARAMETER</u>	<u>SPIKE</u> <u>AMOUNT</u>	<u>MEASURED</u> <u>AMOUNT</u>	<u>PERCENT</u> <u>RECOVERY</u> <u>UNITS</u> mg/kg	<u>METHOD</u>
<u>TPH (as Diesel)</u>	250	207	83	SW846 8015B
<u>SURROGATE</u>			PERCENT RECOVERY LIMITS 90 (60 - 130)	
Benzo(a)pyrene				

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000024

LABORATORY CONTROL SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E1K130284 Work Order #....: EN2981AC Matrix.....: SOLID
 LCS Lot-Sample#: E1K150000-487
 Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1319487 Analysis Time...: 02:06
 Dilution Factor: 1 Instrument ID...: G16
 Analyst ID.....: 001464

<u>PARAMETER</u>	<u>SPIKE</u>	<u>MEASURED</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMOUNT</u>	<u>UNITS</u>		
<u>TPH (as Gasoline)</u>	5.00	4.64	mg/kg	93	SW846 8015B
<u>SURROGATE</u>		<u>PERCENT</u>	<u>RECOVERY</u>		
a,a,a-Trifluorotoluene (TFT)		<u>RECOVERY</u>	<u>LIMITS</u>		
		90	(60 - 130)		

NOTE(S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000025

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: E1K130284 Work Order #....: ENX5R1AC Matrix.....: SOLID
LCS Lot-Sample#: E1K140000-441
Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
Prep Batch #....: 1318441 Analysis Time...: 11:20
Dilution Factor: 1 Instrument ID...: G02
Analyst ID.....: 356074

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
TPH (as Diesel)	83	(60 - 130)	SW846 8015B
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
Benzo(a)pyrene	90	(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000026

LABORATORY CONTROL SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E1K130284 Work Order #....: EN2981AC Matrix.....: SOLID
LCS Lot-Sample#: E1K150000-487
Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
Prep Batch #....: 1319487 Analysis Time...: 02:06
Dilution Factor: 1 Instrument ID...: G16
Analyst ID.....: 001464

PARAMETER	PERCENT RECOVERY	RECOVERY LIMITS	METHOD
TPH (as Gasoline)	93	(80 - 140)	SW846 8015B
SURROGATE	PERCENT RECOVERY	RECOVERY LIMITS	
a,a,a-Trifluorotoluene (TFT)	90	(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000027

MATRIX SPIKE SAMPLE DATA REPORT

GC Semivolatiles

Client Lot #....: E1K130284 Work Order #....: ENV861AD-MS Matrix.....: SOLID
 MS Lot-Sample #: E1K130284-002 ENV861AE-MSD
 Date Sampled...: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
 Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1318441 Analysis Time...: 13:17
 Dilution Factor: 1 Analyst ID.....: 356074 Instrument ID...: G02

<u>PARAMETER</u>	<u>SAMPLE</u>	<u>SPIKE</u>	<u>MEASRD</u>	<u>PERCENT</u>			<u>METHOD</u>
	<u>AMOUNT</u>	<u>AMT</u>	<u>AMOUNT</u>	<u>UNITS</u>	<u>RECOVERY</u>	<u>RPD</u>	
TPH (as Diesel)	ND	250	199	mg/kg	80		SW846 8015B
	ND	250	197	mg/kg	79	1.1	SW846 8015B
<u>SURROGATE</u>			<u>PERCENT</u>			<u>RECOVERY</u>	
Benzo(a)pyrene			<u>RECOVERY</u>			<u>LIMITS</u>	
			86			(60 - 130)	
			85			(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000028

MATRIX SPIKE SAMPLE DATA REPORT

GC Volatiles

Client Lot #....: E1K130284 Work Order #....: ENV9D1AD-MS Matrix.....: SOLID
 MS Lot-Sample #: E1K130284-007 ENV9D1AE-MSD
 Date Sampled...: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
 Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1319487 Analysis Time...: 07:24
 Dilution Factor: 1 Analyst ID.....: 001464 Instrument ID...: G16

PARAMETER	SAMPLE	SPIKE	MEASRD	UNITS	PERCENT		METHOD
	AMOUNT	AMT	AMOUNT		RECOVERY	RPD	
TPH (as Gasoline)	ND	5.00	4.75	mg/kg	95		SW846 8015B
	ND	5.00	4.71	mg/kg	94	0.73	SW846 8015B
<u>SURROGATE</u>				RECOVERY			
a,a,a-Trifluorotoluene				RECOVERY		LIMITS	
(TFT)				98		(60 - 130)	
				96		(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000029

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Semivolatiles

Client Lot #....: E1K130284 Work Order #....: ENV861AD-MS Matrix.....: SOLID
MS Lot-Sample #: E1K130284-002 ENV861AE-MSD
Date Sampled...: 11/13/01 10:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1318197
Prep Date.....: 11/14/01 Analysis Date...: 11/15/01
Prep Batch #....: 1318441 Analysis Time...: 13:17
Dilution Factor: 1 Analyst ID.....: 356074 Instrument ID...: G02

PARAMETER	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>	RPD	LIMITS	METHOD
TPH (as Diesel)	80	(60 - 130)			SW846 8015B
	79	(60 - 130)	1.1	(0-35)	SW846 8015B
SURROGATE	PERCENT <u>RECOVERY</u>	RECOVERY <u>LIMITS</u>			
Benzo(a)pyrene	86	(60 - 130)			
	85	(60 - 130)			

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000030

MATRIX SPIKE SAMPLE EVALUATION REPORT

GC Volatiles

Client Lot #....: E1K130284 Work Order #....: ENV9D1AD-MS Matrix.....: SOLID
MS Lot-Sample #: E1K130284-007 ENV9D1AE-MSD
 Date Sampled...: 11/13/01 11:00 Date Received...: 11/13/01 15:03 MS Run #.....: 1319248
 Prep Date.....: 11/15/01 Analysis Date...: 11/15/01
 Prep Batch #....: 1319487 Analysis Time...: 07:24
 Dilution Factor: 1 Analyst ID.....: 001464 Instrument ID..: G16

<u>PARAMETER</u>	<u>PERCENT</u>	<u>RECOVERY</u>	<u>RPD</u>	<u>LIMITS</u>	<u>METHOD</u>
TPH (as Gasoline)	95	(80 - 140)			SW846 8015B
	94	(80 - 140)	0.73	(0-40)	SW846 8015B
<u>SURROGATE</u>	<u>PERCENT</u>	<u>RECOVERY</u>		<u>LIMITS</u>	
a,a,a-Trifluorotoluene (TFT)	98			(60 - 130)	
	96			(60 - 130)	

NOTE (S) :

Calculations are performed before rounding to avoid round-off errors in calculated results.

Bold print denotes control parameters

000031